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**Classification of Bees of the Genus BOMBOMELECTA.**

BY H. L. VIERECK.

This synopsis is the result of a study of all material available at the Academy of Natural Sciences, Philadelphia, comprising all the described species of North America.

*Females.*

- Pygidial area cuneiform, flat.....1.  
 Pygidial area with the sides parallel or nearly, usually elevated along the middle.....2.  
 1. First joint of flagellum distinctly longer than the second; first abdominal segment with pale pubescence.....**thoracica** Cress.  
     First joint of flagellum about equal to the second; first abdominal segment black.....**zygos** n. sp.  
 2. Ten mm. long; abdomen maculated with white bars of appressed pubescence.  
     **arizonica** Ckll.  
     Larger, 12 mm. and over, abdomen if spotted not distinctly.....3.  
 3. Abdomen all black, excepting thin bands of light brown appressed pubescence.  
     **larreae** Ckll.  
     Abdomen with pale long pubescence on first segment.....4.  
 4. Dorsulum with a band of black hair extending from one wing to the other.  
     **separata** Cress.  
     Pubescence of dorsulum concolorous.....5.  
 5. Pubescence of dorsulum pale ochraceous.....**pacifica** Cress.  
     Pubescence of dorsulum orange fulvous.....**fulvida**.

*Males.*

- First joint of flagellum distinctly longer than the second.....1.  
 First joint of flagellum distinctly shorter than the second.....3.  
 1. Joints of flagellum remarkably thickened; second joint broader than long.  
     All except dorsulum with black pubescence.....**azygos** n. sp.  
     Joints of flagellum slender; second joint longer than broad.....2.  
 2. Pubescence ranging from almost white to pale ochraceous and yellow ochraceous.....**pacifica** Cress.  
 3. Face with white pubescence; abdomen with bands of white appressed pubescence.....**alfredi** Ckll.  
     Face with black pubescence; abdomen all black.....**edwardsii** Cress.

**Bombomelecta zygos** n. sp.

♀.—Length 14 mm.—*Head* covered with indistinct punctures, hidden in greater part by the long black hair which occupies all of the head except the margin of the occipital region. The ocelli placed on an imaginary straight line, the distance between the lateral ones about, equal to the distance between them and the nearest eye margin. A distinct thin keel medially placed between the insertion of the antennæ, continued as a raised line and then a streak up to the

middle ocellus, below this keel is continued nearly half way down the clypeus as a raised line. Eyes nearly parallel, the space between on a line drawn across the middle of the clypeus less than the space between on a line drawn across the front anterior to the middle ocellus. Clypeus convex, with a narrow polished margin. Labrum concave, the punctures coarse close together but not well defined; sparsely covered with bristles, more copiously with short soft hairs. Mandibles curved, the tip of one extending almost as far as its fellow. Scape about as long as the first three joints of flagellum combined, hardly thicker than the flagellum.

*Thorax*.—Sculpture of dorsum largely hidden by the abundant pale dull yellowish pubescence, the exposed portions closely indistinctly punctured, granular. Scutellum with a stout spine on each side directed backward, the spine as long as the pubescence, about one mm. Metathorax on the posterior aspect sparsely covered with black hairs, indistinctly punctured and dullish except for a triangular area which is depressed along the middle, rugulose near its base in greater part smooth and shining; the apex of this triangular area is about two-thirds the distance from the superior margin of the posterior aspect of the metathorax, from this apex to the insertion of the abdomen is a narrow sulcus. Sides of the thorax thickly clothed with black pubescence, the sculpture like that outside of the triangle on the metathorax. Legs in greater part covered with short black hairs; tarsal claws cleft the parallel tooth extending nearly to the middle of the long claws. Wings hyaline darkened with brown but not strongly, nervures black or almost; first recurrent nervure received by the second submarginal cell a little beyond the middle, the second recurrent received by the third submarginal cell at the middle or nearly; transverse median nervure in posterior wings originating some distance before the origin of the cubitus.

*Abdomen* with minute indistinct punctures separated by small spaces; some bristle like hairs at base, sides and on the margins of slight depressions on the segments, otherwise covered with a fine appressed dark (black) pubescence which almost hides the character of the sculpture and has brown, purple and bluish reflections in certain lights, the rich deep royal blue predominating. Pygidial area with slightly raised margins, finely granular, dullish

*Jet Black* excepting antennæ, mandibles and legs which have a more or less brownish tendency.

Type, Coll. Am. Ent. Soc. Type locality, California.

May be the ♀ of *B. edwardsii* Cress.

***Bombomelecta arizonica* Ckll.**

Type loaned to Acad. Nat. Sci. Phila. Type locality, Tempe, Arizona.

Tempe, Arizona, March, at flowers of *Sphaeralcea variabilis*

***Bombomelecta larreae* Ckll.**

Can. Ent. Lond. Ont., Dec., 1900, p. 361, ♀, 12.5 mm.

Type loaned to Acad. Nat. Sci. Phila. Type locality, Mesilla Park, N. M.

Mesilla Park, N. M., 9, v, 1900, at flowers of *Larrea tridentata* (Ckll.)

**Bombomelecta separata** Cress.

Trans. Am. Ent. Soc., vii, 1879, p. 204, ♀.

Type, Coll. Am. Ent. Soc. Phila. Type locality, Nevada.  
Nevada (Morrison).

**Bombomelecta separata** var. **maculata** n. var.

Separated from the typical species by the presence of a dot of white appressed pubescence on each side of abdominal segments three and four.

Type, Coll. Am. Ent. Soc. Phila. Type locality, Salt Lake City, Utah, 26, iv, 1896. One ♀, Condon, Oregon, 23, vii, 1899.

**Bombomelecta pacifica** Cress.

Trans. Am. Ent. Soc., vii, 1879, p. 204, ♀ not ♂.

*Bombomelecta thoracica* var. *pacifica* Cress, Syn. Hym. N. Am., 1887, p. 298.

*Melecta thoracica* var. *pacifica* D. T., Cat. Hym., x (Apidæ), p. 318.

Type, Coll. Am. Ent. Soc. Phila. Type locality, California.

♀, California. One ♂ Calif., has the light pubescence almost white. One ♂ Colorado, with light pubescence pale ochraceous. Two ♂'s, Nevada, with light pubescence yellowish ochraceous.

**Bombomelecta fulvida** Cress.

Trans. Am. Ent. Soc. Phila., vii, 1879, p. 204. ♀.

*Melecta thoracica* var. *fulvida* Cress., Tr. Am. Ent. Soc., vii, 1879, p. 204. ♀.

*Melecta thoracica* var. *fulvida* D. T., Cat. Hym., x (Apidæ), p. 318.

*Bombomelecta thoracica* var. *fulvida* Ckll., Psyche, vii, Suppl., i, p. 11.

Type, Coll. Am. Ent. Soc. Phila. Type locality, Nevada.

Nevada; Mesilla Valley, N. M., on *Lycium* (J. Casad.).

Possibly only a race or variety of *pacifica*, but not related to *thoracica*.

**Bombomelecta azygos** n. sp.

♂.—Length 14 mm.—*Head* shining and roughened, greater part of tegument hidden by the short black hair. Eyes converging below diverging above. Clypeus with closely arranged ill defined punctures shining, the anterior border with a very narrow polished margin. Labrum almost flat, polished, irregularly punctured, the punctures rather large but not well defined. Ocelli arranged as in *zygos*. Mandibles heavy and short, one mandible overlapping the other extends only half way up. Scape densely covered with black pubescence, hardly longer than the first joint of flagellum; first joint of flagellum nearly as long as next two united.

*Thorax*; dorsulum punctured, the punctures moderate not sharply defined, close together, the sculpture in greater part hidden by the yellowish ochraceous pubescence. Scutellum rugulose, with a slight eminence on each side, covered with black pubescence. Metathorax with a well defined triangular area, the

sculpture of the triangle much like the surrounding area, rugulose, shining, a median smooth streak in the triangle and the apical half duller than other parts of metathorax. Between the apex of the triangle and the insertion of abdomen is a distinct pit about as broad as long. Metathorax and sides of thorax covered with black pubescence, the sides of the thorax more closely rugulose than the metathorax—dull. Legs covered with black pubescence; claws cleft, the anterior pair of legs with the lesser tooth of claw slender and extending beyond middle of large claw, the middle and posterior pair of legs have the lesser tooth short and broad, without a point, not very prominent. Distance between the insertion of first recurrent nervure and second transverse cubitus on cubitus about one-fourth length of second cubital cell on the cubitus; second recurrent received by the third cubital cell in the middle. Transverse median nervure in hind wings terminates a little before the origin of cubitus.

*Abdomen* shining, finely sculptured, covered with a fine black or deep brown appressed pubescence, a slight depression on second and third segment with denser pubescence, segments 1, 2 and 3 with narrow polished apical margins, 4, 5, 6 with broad polished margins, a row of bristles on segments 4 and 5 at the caudal edge of polished margin. Apical segment slightly emarginate and with a slight median furrow. First and second segment with a small spot of yellowish appressed pubescence on each side near the caudal margin.

*Black*, tarsi somewhat inclined to brown. Wings very much darkened, deep brown, nervures black.

Type, Coll. Am. Ent. Soc. Phila. Type locality, Nevada.

Nevada, one ♂.

**Bombomelecta alfredi** Ckll.

Psyche, vii, Suppl. 1, p. 2, ♀ 12 mm.

Type loaned to Acad. Nat. Sci. Phila. Type locality, Las Cruces, N. M.

One ♂, Las Cruces, April 17, 1895, on cottonwood tree (A. Holt).

**Bombomelecta edwardsii** Cress.

Trans. Am. Ent. Soc., vii, p. 92, ♀.

Type, Coll. Am. Ent. Soc. Phila. Type locality, California.

One ♂, California. Has spines on scutellum like *zygos*.